INSTYTUT

GLOTTODYDAKTYKI POLONISTYCZNEJ

zaprasza na wykład

dr King Chung

An overview of modern hearing aid technologies

21 listopada (poniedziałek), godz. 16.30,
Grodzka 64, sala nr 06 (aula)

Dr King Chung is an educator, a researcher, and a humanitarian. Her areas of expertise include acoustics, amplification, calibration, and humanitarian audiology. Her research focuses on how to improve signal processing strategies of hearing aids and cochlear implants. Dr. Chung and her research team also developed an automated hearing test app to improve the access to hearing loss identification, especially in low- to mid-income countries. A Fulbright Scholar and a Humanitarian Award recipient, she led students onto >10 humanitarian research and service trips to 4 continents to foster future generations of humanitarians and to facilitate better hearing care services around the world.

Abstract:
Modern hearing aids are small computers. They not only make sounds louder but also are implemented with many digital signal processing algorithms to enhance speech understanding, improve sound quality, and increase user convenience. Directional microphones, for example, use spatial differences between speech and noise to reduce the interference of background noise. Newer directional microphone can transmit signals from one hearing aid to the other hearing aid to generate more directional responses and to provide more directional benefits. Instead of using the traditional FM or infrared systems, hearing loop systems and Bluetooth devices are used to further enhance signal-to-noise ratio and improve speech understanding. Noise reduction algorithms, on the other hand, take advantage of the differences between speech and noise characteristics to reduce long-duration background noise, transient noise, and wind noise. In addition, modern hearing aids are often implemented with algorithms to promote communication and monitor health conditions. This talk will discuss the design rational of these algorithms and how they can be used effectively to help people with hearing loss.